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### REMARKS

Reconsideration of the application is requested.

Applicants note with appreciation the Examiner's indication that claims 16-18 contain allowable subject matter. Claims 16 and 17 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, claims 16-18 are now believed to be in condition for allowance.

In the Office Action dated April 8, 2005, claims 1-12 were rejected under 35 U.S.C. §102(b) as being anticipated by Venable U.S. Patent No. 4,996,812. Claims 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Venable '812. Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Venable '812 in view of Beck U.S. Patent No. 4,498,267. Claims 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Venable '812 in view of Yano et al. U.S. Patent No. 6,077,896.

Independent claims 1, 5 and 8 of the present application recite a roof structure including, among other features, a moisture curing adhesive. Independent claims 1 and 5 further recite that the moisture curing adhesive is a polyether based adhesive.

In contrast, Venable U.S. Patent No. 4,996,812 discloses a two-component polyurethane adhesive system having polyol/diisocyanate components. With reference to the enclosed material from the Condensed Chemical Dictionary, 10<sup>th</sup> Edition, a polyurethane is a thermoplastic polymer produced by condensation reaction of a polyisocyanate and a hydroxyl-containing material e.g., a polyol derived from propylene oxide or trichlorobutylene oxide. The basic polymer unit is formed as follows:  $R_1NCO + R_2OH \longrightarrow R_1NHCOOR_2$ . Accordingly, moisture (H<sub>2</sub>O) is not in any way involved in the reaction, such that Venable '812 cannot possibly anticipate claims 1-12 of the present application.

Due to the very substantial technical requirements for roofing systems, developing a suitable adhesive is not merely a design choice. Applicants have enclosed herewith information from the SPRI.org webpage relating to the extensive and costly requirements for testing of roof system assemblies. The enclosed information indicates that "product testing can account for significant expenditure of money, time and manpower every year . . ." and that "every time a manufacturer makes a slight change in a material or an assembly, these tests

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have to be repeated." (Emphasis added). For example, two tests for wind uplift are FM4470 and UL1897. The cited references not only fail to teach or suggest a roof membrane adhered to a roof substrate, but also fail to provide any reason to expect that a moisture curing adhesive would be suitable and meet the numerous test criteria of the applicable standards.

Furthermore, a roofing adhesive must provide for a variety of conditions and loads in addition to wind uplift. For example, the various roof components may have substantially different coefficients of thermal expansion, such that the adhesive may be subject to substantial thermal stresses caused by temperature fluctuations. These stresses may cycle many times during the useful life of the roof. Applicants respectfully submit that meeting such requirements cannot reasonably be considered mere design choice. Furthermore, "design choice" is not, by itself sufficient to establish prima facie obviousness. "Establishing a *prima facie* case requires a teaching or suggestion to modify a reference or to combine reference teachings, and the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure." MPEP 2143 citing *In re Vaeck*, 947 F.2d 488. 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added). Applicants have reviewed Venable '812 in detail, and can find no teaching or suggestion to eliminate the spray gun mixing apparatus and two part polyurethane foamed adhesive.

Applicants note that "a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." MPEP 2141.02 citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Applicants respectfully submit that Venable actually teaches away from a moisture curing adhesive, because it teaches use of a two-part polyurethane system and spray gun mixing system for applying the adhesive.

Also, despite the serious health and environmental hazards of diisocyanates, adhesives containing diisocyanates have continued to be used for adhering roof membranes. Enclosed is a copy of the National Institute for Occupational Safety and Health (NIOSH) Alert entitled "Preventing Asthma and Death from Diisocyanate Exposure." The Alert states that "Workers exposed to diisocyanates may develop serious or fatal respiratory disease." Applicants note

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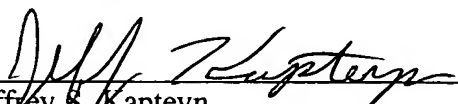
that Case No. 4 "Isocyanate Foam Operation" indicates that at least one death has occurred due to exposure. Also, Case No. 7 "Isocyanate Roofing Foam" further evidences the hazards associated with diisocyanate foam roofing systems. Applicants respectfully submit that the continued use of diisocyanate adhesive systems despite the known hazards of such compounds strongly suggests that use of a moisture curing adhesive is not, in fact, obvious to those skilled in the art. Restated, why would hazardous diisocyanate adhesives have been extensively used for years if other suitable adhesives were available/obvious?

Claims 2-4 depend from claim 1, claims 6-7 depend from claim 5, and claims 9-20 depend from independent claim 8, and are therefore believed to be allowable for those reasons set forth above with respect to independent claims 1, 5 and 8.

Applicants have made a concerted effort to the place the present application in condition for allowance, and a notice to this effect is earnestly solicited. In the event there are any remaining informalities, the courtesy of a telephone call to the undersigned attorney would be appreciated.

Respectfully submitted,

8/8/05  
Date

  
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